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15 Hi, we work on sustainable energy and transportation at Sidewalk Labs. Ask us a... Discussion ✕ Close

Posted by u/SidewalkToronto 1 year ago

15

Hi, we work on sustainable energy and transportation at Sidewalk Labs. Ask us anything about Sidewalk Toronto (Aug 13 10-11 AM ET).

Discussion

Released in June after 18 months of planning and public input, our *Toronto Tomorrow* proposal outlines a new approach for inclusive growth along the city's eastern waterfront. Check out https://sidewalktoronto.ca for more.

On **Tuesday, August 13, from 10-11 a.m. ET**, Charlotte Matthews (Director of Sustainability) and Willa Ng (Director of Mobility for Streets) will **answer your questions about sustainable energy and transportation**, along with Editorial Director Eric Jaffe (lead writer for the proposal).

Our sustainability plan outlines a path towards a "climate-positive" community that shares extra clean energy with other parts of the city. It includes energy-efficient building designs inspired by the Passive House movement, a "thermal grid" system that provides clean heating and cooling, an advanced power grid that uses solar energy and battery storage, a "smart" disposal chain that improves recycling, and more. You can read about the sustainability plans here.

Our mobility plan outlines a sustainable transportation system featuring a proposed public transit expansion, better bike and pedestrian options, a new mobility "subscription package" that can save households $4,000 a year over car-ownership, an underground delivery network that can reduce truck traffic, and a set of "people-first" street designs that improve safety, accessibility, and public space. You can read more about the mobility plans here.

We look forward to answering your questions!

Proof: https://twitter.com/sidewalklabs/status/1159828756510363648

You can read previous AMAs on the overall project, digital governance, and affordable housing here, and see times for upcoming AMAs on the Quayside plans and public spaces (Aug 20), and the partnership and business model (Aug 27).

The AMA sessions are an opportunity for Sidewalk to answer questions and clarify aspects of our proposal — but they aren't part of Waterfront Toronto's public consultation process. You can read more about that process here.

[UPDATED / EDITED] We're signing off at 11. Special thanks to everyone who's engaging closely with the proposal!

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ThePurpleBandit The Beach · 1 year ago

Why does Sidewalk feel the need to flood r/Toronto with AMA's when they're already buying all the political connections they need? Will the questions in an AMA impact any of the policy and planning decisions you intend to make, or are you just trying to spin your existing proposal?

54 Share Report Save

rbt321 · 1 year ago

The AMAs, I presume, are part of a campaign to win public support/excitement with the hopes the government will be lenient on the written terms of the contract (required work, funding, and timeline for the agreed upon area).

13 Share Report Save

SidewalkToronto · 1 year ago

(Eric here.) The goal is certainly not to flood r/Toronto. Sorry you feel that way. We've worked with the mods to try to develop a weekly summer AMA series that's comprehensive but (we hoped) not overwhelming.

Truth is the MIDP is a very long and wide-ranging proposal with the potential to have a big impact on Toronto's waterfront. We know it's a lot for people to digest, but we also feel a responsibility to address any questions the proposal might raise. By splitting up these AMAs across a number of topic areas and dates, we want to provide people with several opportunities to engage further.

To your second question, the proposal itself was shaped by 18 months of public consultation involving 21,000 Torontonians — and it will continue to be refined via consultations led by Waterfront Toronto and government. We encourage everyone to participate in those ongoing programs and hope these AMAs can broaden the basic understanding of our proposal.

So yes, there is still a chance to impact the policy and planning ideas for this project, and we hope you'll engage with the substance of our proposal to help improve it.

1 Share Report Save

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reddittt123456 · 1 year ago

How many AMAs are you guys gonna do? cripes

33 Share Report Save

JamesPincheHolden · 1 year ago

As many as it takes to convince people they are serving the interest of the community and not corporate interest.

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SidewalkToronto · 1 year ago

See the general response above to ThePurpleBandit. To your specific Q, we've currently planned to hold 6 AMAs across a range of topic areas that, altogether, cover the MIDP in full. (Your username suggests you'd agree that 6 is a good number to stop at?)

-4 Share Report Save

MatthewFabb · 1 year ago

Will private vehicles be banned from certain streets in the project? Or with limited parking and a large emphasis on other forms of transportation, do you just expect fewer people using private vehicles?

Also does the project have any plans for handling electric vehicles? Example are there plans for charging stations anywhere?

Finally, the project seems to depend there being a Waterfront LRT for public transportation. Unfortunately, the current provincial government has removed the Waterfront LRT from their transit priorities. Can the project happen without the Waterfront LRT?

9 Share Report Save

SidewalkToronto · 1 year ago

(Willa here.) Thanks for these great questions. Appreciate that you've taken the time to explore our plans. I'll take the questions in order.

On Question 1: No, we're not banning private vehicles in Quayside. Sidewalk Labs has a vision of street design that assigns each street to a priority mode and speed, creating a core for pedestrians and safer streets for cyclists, while faster moving vehicles are encouraged to stay on major streets on the perimeter. (You can read more about our Street Design principles here, and how they apply to Quayside here.)

Quayside itself doesn't have many streets so it's hard to apply this full vision. But the neighbourhood's mobility system is still designed around transit, cycling and walking - and we expect over 73% of trips to be taken on one of these modes in Quayside. As a result, we've limited the amount of parking.

On Question #2: We do have plans to encourage EVs at both on-site parking facilities (short-term parking meant primarily for visitors and workers) and off-site facilities (longer-term parking meant for residents).

At the on-site facility, 25% of spaces would be equipped with EV chargers, and most would be fast chargers (Level 2 or 3), with the potential to expand to 100% of spaces. Additionally, the on-site parking facility will reserve 100 spaces for EV car-share.

At the off-site facility, EV charging would be available and parking fees would be discounted to encourage people who own cars to switch to EVs. Our goal is for 30% of residents to switch.

You can read more about EVs on Pages 61-62 of the Mobility chapter.

On Question #3: We believe public transportation is the key to unlocking any sustainable new development, such as the eastern waterfront. It's the essential first step. Otherwise, cities or neighbourhoods get locked into car-first development patterns for decades, with all the traffic congestion, pollution, road maintenance costs, and need for car-ownership that come with it.

Toronto has a great plan for waterfront transit expansion, but you're right that funding it has been elusive, largely because of constrained budgets. We've proposed an established "self-financing" approach that can get this critical project done without drawing from other public funding priorities.

In this approach, transit construction would be financed against a future charge on developers, who would benefit from the transit access. We've offered to provide up to $100 million in optional financing support to help get this done. (The light rail would remain publicly owned and operated.)

6 Share Report Save

joeyxl L'Amoreaux · 1 year ago

how much will you be selling the data you collect from day to day lives of people in toronto? and who is the buyer?

20 Share Report Save

SidewalkToronto · 1 year ago · edited 1 year ago

(Eric here.) As mentioned in the answer above to cmonghost, Sidewalk Labs has committed not to sell personal information, not to use it for ad purposes, and not to share it with third parties without explicit consent. It's just not part of our business model. Our goal is to improve people's lives, consistent with the objectives outlined by Waterfront Toronto and government.

You can read more about our plans for digital governance, including our proposal to create an independent Urban Data Trust, in this previous AMA with the data team.

[UPDATED TO ADD LINK]

1 Share Report Save

[deleted] · 1 year ago

Will there be any opportunities for Torontonians to get a cut of the money you make off our data, data you'll be collecting without our consent? Follow up: what would it take for you to go away and leave our city alone?

14 Share Report Save

SidewalkToronto · 1 year ago

(Eric here.) Thanks for your question and sorry you feel this way. Sidewalk Labs has committed not to sell personal information, not to use personal information for ad purposes, and not to share personal information with third parties (including other Alphabet companies) without explicit consent.

We are in practice a placemaking company whose mission is to improve urban life. We do hope to make money, but selling data is not part of that business model.

Instead, our business model includes traditional real estate development, creating urban innovations (some of which are digital but many of which are not, such as modular pavement and factory-based construction), and helping cities finance much-needed infrastructure.

In addition to those commitments, we also propose a novel profit-sharing arrangement with government: For certain innovations (whether or not they involve data) that Sidewalk Labs develops and deploys at scale in connection with the project, Sidewalk Labs also proposes to share 10 percent of the profits with the public sector for 10 years after that innovation is sold to another city.

We want the public to share in the value this project creates, and we measure this project's success by achieving the objectives established for us by Waterfront Toronto around affordability, sustainability, and economic opportunity.

You can learn more about our business model at the partnership AMA on Aug 27 (1-2 PM).

-4 Share Report Save

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Drank_tha_Koolaid · 1 year ago

I know everyone here likes to hate on this project, but I do appreciate you taking the time to answer questions. I am particularly interested in the extent to which energy saving/green building design will be implemented.

I know of a building in the city that went to the effort of installing a grey water system for toilets. When there were issues with the system building maintenance/management didn't know how to fix or maintain it correctly so they just unhooked the system (but left all the signs about the great grey water system up).

How do you plan to ensure that the all the new systems you are proposing are maintained and used correctly, so that you actually see a benefit?

I know that getting approvals for grey water systems are a pain. Is there any plan to install such a system for irrigation or other uses?

Are you planning to get actual Passive House certified or are you 'building to their standards'? Are there currently any large buildings in Ontario (or Canada) with this status? If you aren't doing Passive House certification, are there plans to go for LEED platinum? Or something similar?

Last question, what is the transportation 'subscription package' that you are proposing? Is it some variation or Zipcar/Enterprise Car share?

Thanks!

6 Share Report Save

SidewalkToronto · 1 year ago

(Charlotte here.) Thanks for your post. We're excited about our proposals, and energy-efficient building design is a critical part of our sustainability plan. I'll take your questions separately. (Willa will help with the transportation one.)

On maintenance and usage: It's true that we're proposing a lot of innovative energy systems that will require some behavioural changes, both by management and tenants. To ensure they're used right, one thing we plan to do is conduct some pilots that can help us understand how best to implement these systems. In particular, we are developing pilots around the energy Schedulers, which are discussed in the Sustainability Chapter, and will help optimize the operation of buildings (minimizing energy waste).

We are also conducting pilots to help develop the technology behind our smart disposal chain (which helps people recycle better based on feedback) and stormwater management. If you want to learn more, these pilot proposals are described on Pages 345 and 363, respectively, in the Sustainability chapter.

Additionally, we've proposed that an administrative entity called the Waterfront Sustainability Association help manage all sustainability-related systems and report on sustainability objectives. This is just one mechanism of oversight on building performance and we're open to other ideas that help ensure the best maintenance and management.

On greywater systems: We do not propose a greywater treatment system. However, we do plan to capture and reuse rainwater for irrigation and provide extensive green infrastructure and green roofs as part of a stormwater management plan to manage rainwater on site (and not overwhelm downstream city stormwater management infrastructure).

On building design: Canada is actually one of the original homes of Passive House! The 1977 Saskatchewan Conservation House in Regina used triple layers of insulation and windows oriented to capture sunlight, needing only 1/28th of the average heating requirement.

Today, Toronto has incorporated Passive House principles into the Toronto Green Standard. A key step in our sustainability plan is to build low-energy buildings that are inspired by these principles, reducing how much energy tenants need to heat or cool their spaces.

Our approach to energy-efficient buildings incorporates several strategies:

- Highly insulated building "envelopes" -- basically walls designed to reduce heat loss.
- Thermal breaks (non-conductive inserts) to stop building heat from escaping via unintended paths.
- Airtight building construction standards measured by a "blower door" test to measure air leads (this is the test used to certify Passive House buildings).
- Balanced ventilation systems that can "recover" heat, helping interior spaces reach a desired temperature with minimal energy use

We estimate that these approaches will achieve Toronto Green Standard Tier 3 for Total Energy Use Intensity, Tier 4 for Greenhouse Gas Intensity, and Tier 3 for Energy Demand Intensity. (Tier 1 is the minimum standard.) Overall they would help reduce GHG emissions by 15.2 percent from existing Toronto averages.

On the transportation subscription package (Willa here): The package we've envisioned would include a TTC monthly pass, an unlimited Bike Share Toronto membership, access to electric scooters and other low-speed vehicles, and credits for rides with ride-hail or car-share providers. (As noted in another answer, the limited on-site parking facilities would include 100 priority spaces for EV car-share.)

We estimate that this package could handle all transportation needs while saving households more than $4,000 a year if they choose to use the package instead of owning a car. You can read more about this estimate on Page 67 of the Mobility chapter.

3 Share Report Save

Rahoolgan__ · 1 year ago

Will your stated desire to improve cycling infrastructure and public transit only apply to the eastern waterfront or the rest of the city as well?

6 Share Report Save

SidewalkToronto · 1 year ago

(Willa here.) Our main project area is Quayside, although we explored ways to expand this vision to other parts of the eastern waterfront.

We need to connect to the existing cycling and transit infrastructure in the City of Toronto to truly incentivize people to use those modes. You'll see in our proposal that we're extending existing transit lines (Page 109 of Volume 1) and bike routes (Page 113).

We do believe that some of the proposals to improve safety on cycling routes, including streets that are designed specifically for bikes, bicycle priority signals, heated pavement in bike lanes and green waves, will be a good testbed for City of Toronto's planners.

We hope the city will find ways to implement these types of ideas in other areas. One of the main purposes of this project is to demonstrate a path forward for Vision Zero that could be adopted by cities across Canada - and the rest of the world.

4 Share Report Save

[deleted] · 1 year ago

Why are you building an expensive development in the Portlands, which will regularly flood over the next 50 years?

Why should taxpayers be on the hook for repairing the perpetual flooding of a privately-built neighbourhood?

Throwing a $1.25 billion in taxpayer money at the waterfront to protect your private neighbourhood from flooding is egregious. I don't want my tax money to be used to prop up a development that should never have been built.

2 Share Report Save

[deleted] · 1 year ago

You can't believe that climate change is real and that building on the Portlands is a good idea at the same time.

2 Share Report Save

ngg01 · 1 year ago

Thanks for taking time to answer our questions! I'm wondering what approaches to food-waste / food sustainability are planned for Sidewalk / Toronto of Tomorrow? I understand this sustainability thread is focused on energy and transport, so in terms of relating food waste to sustainable energy, are there ways to use food waste for energy I believe (example). Is Sidewalk pursuing these types of systems? Thanks!

4 Share Report Save

SidewalkToronto · 1 year ago

(Charlotte here.) Thanks for this question. Handling organics / food waste is an important part of our smart disposal chain and sustainability more broadly. When not properly disposed, organics decompose to produce methane emissions, which have a significantly greater climate impact than carbon emissions.

We do have a plan for food waste in Quayside. Tenants would dispose of organic material into a dedicated "organics" chute within buildings, helping to keep it separated from other waste types. (There are other chutes for recycling and landfill waste.) The food waste would then go to an off-site facility to be processed by "anaerobic digesters," which converts food waste into clean energy (renewable fuel / biogas).

After the fuel is extracted, the dehydrated material can be used for nutrient-rich compost (or soil amendments).

2 Share Report Save

[deleted] · 1 year ago

Why can't you execute your vision in the US where no one could tell the difference between distopian corporatism and distopian government?

Why ruin a mostly functional city with obviously dangerous encroachments on the role of governments? Wouldn't rebuilding Detroit have made more sense? Why not San Fran? Why victimize innocents?

5 Share Report Save

alizak22 · 1 year ago

What heat source will be used for the district energy system?

3 Share Report Save

SidewalkToronto · 1 year ago

(Charlotte here) Great question. We're very excited about the potential for a district-energy system to provide clean heating and cooling, and potentially to make the eastern waterfront "climate positive," which means it would export extra clean energy to surrounding areas.

We've proposed a type of district-energy system called a "thermal grid" that relies on clean energy from a variety of sources, including geothermal wells, building waste (or excess) heat, and wastewater (sewage) heat. A little more on these sources:

- Geothermal wells enable heat to be extracted from the ground during cold days, since the earth is a little warmer than the outside world, and vice versa on hot days. The wells effectively serve as "thermal batteries" for the project.
- Building "waste" heat is the excess heat produced by equipment and appliances that tenants use, such as computers or even hot showers.
- Wastewater heat is all the heat produced by the wastewater flushed down dishwashers and toilets. Toronto has some great potential wastewater energy sources, including the Ashbridges Bay Wastewater Treatment Plant.
- We've also explored the potential to capture "industrial" waste heat from data centres and electrical stations.

The thermal grid is a complicated system, but basically what it does is make sure that all the buildings in a neighbourhood have access to this clean heat energy from these sources via underground pipes. If buildings need more heat, they can draw it from the pipes. If they have too much heat and need to provide cooling, they can "reject" heat back into the pipe network. This design enables buildings to "share" heat energy without always needing to draw new heat energy.

You can read more about the thermal grid design and sources on Pages 334-343 in the Sustainability chapter.

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SidewalkToronto · 1 year ago

Since we have a little extra time, we wanted to answer some of the sustainable energy / transport questions that appeared in previous AMAs. We will link back to those questions.

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SidewalkToronto · 1 year ago

From the buildings and housing AMA:

> The waterfront will flood more and more over the next few years. All the predictions show massive, regular flooding in Toronto south of Front street.
>
> Why is it a smart idea to spend billions on infrastructure that will be under water?
>
> The boardwalks the city built along the waterfront less than 5 years ago are underwater and destroyed now, and it'll cost millions to repair them - not that it makes sense to repair them.
>
> stairapprentice

(Charlotte here.) You're right to be concerned about flooding in this era. Fortunately Toronto has taken some important steps on this issue.

Waterfront Toronto has a groundbreaking $1.25 billion flood-mitigation program to renaturalize the Don River to help protect against stormwater overflows. The City of Toronto's Wet Weather Flow guidelines call for new development to reduce outflow of annual rainfall by 90%. The Toronto Green Standard's Tier 1 requirement calls for a minimum of 5 millimetres of stormwater retention.

We've proposed an active stormwater management system to build on this progress. That system has two main components:

1. The first component is extensive "green infrastructure," such as green roofs and tree plantings, which will help retain stormwater (and re-use it for irrigation purposes) and reduce the urban "heat island" effect that can make cities so hot. This approach also creates a more pleasant neighbourhood filled with greenery and nature.
2. The second component is an active valve system that can empty out stormwater tanks in advance of a storm. This helps to minimize the amount of stormwater infrastructure needed in a given area, which as you point out, can be very expensive to maintain.

We estimate this plan would achieve Tier 3 of the Toronto Green Standard for stormwater retention (25 mm) and reduce the stormwater moving into municipal infrastructure systems by 90% (due to greater retention by the green infrastructure).

You can read more about our stormwater approach on Pages 358-365 of the Sustainability chapter.

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SidewalkToronto · 1 year ago

Question from the data AMA:

> In recent years we've seen a move towards barricading sidewalks, either permanently like Union Station, and parts of King Street, or temporarily during street events.
>
> The design for the public-realm mentions "Dynamic curbs" and that link shows a rope barricade. It seems like vehicles can encroach on the dense public area beyond the rope.
>
> Page 65 of this 32M pdf shows another concept where there are permanent barricades between the dynamic curb and the people on the sidewalk. The barricades seem like a strong signal to pedestrians not to use the dynamic curb.
>
> The one permanent reclaimed curb I use often are the Muskoka chairs on King Street in front of Roy Thompson Hall. I find it very relaxing to sit with a laptop, in those comfortable seats, with a view and random people walking by. But I cannot imagine dragging a chair in and out of a Dynamic curb.
>
> Dynamic curbs sound like a great idea, but seem to be time-limited street level parking. Can you describe or point out other designs for dynamic curbs?
>
> memorylane

Thanks for the question. (Willa answering.) We're very excited about dynamic curbs and their potential to reclaim public space for pedestrians during low-traffic periods.

During higher-traffic periods, dynamic curbs would serve as pick-up and drop-off zones to reduce congestion around shared or taxi rides; they would not be timed street parking. In fact, our mobility proposals do not call for any street parking at all in Quayside.

During off-peak times, they could be repurposed as public space in a number of ways:

- One is lighted pavement. We've proposed a modular pavement system with lighted capabilities. You could imagine dynamic curbs changing color to indicate different uses across the day. (That's what the images you mention in Volume 1, Pages 130-133, are showing.)
- Another approach might be dynamic signage: imagine a digital street sign that changed its message based on the current uses for a given part of the street.
- A third approach might be using movable furniture to designate the dynamic curb and separate it during use as public space.
- A fourth approach might involve syncing up with navigation apps, which could tell drivers and passengers when curbs were available (or not). This routing approach would likely become more important as cities move towards self-driving cars, but they remain possible today, too.

These approaches aren't mutually exclusive: you could do one, many, or all. We'd have to pilot the concept to determine how people respond to various indicators. But what's more important than any specific approach is making sure this street space can stay flexibly, unlike streets today, which remain allocated for vehicles even when there's no cars using them.

As for the illustration you see in Volume 1, those benches actually designate the END of the dynamic curb, not the start of it. In other words, the area beyond the benches is always a pedestrian area. It's the area on the street side of the benches that would remain flexible based on time of day.

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ozkp 0 points · 1 year ago 0 children

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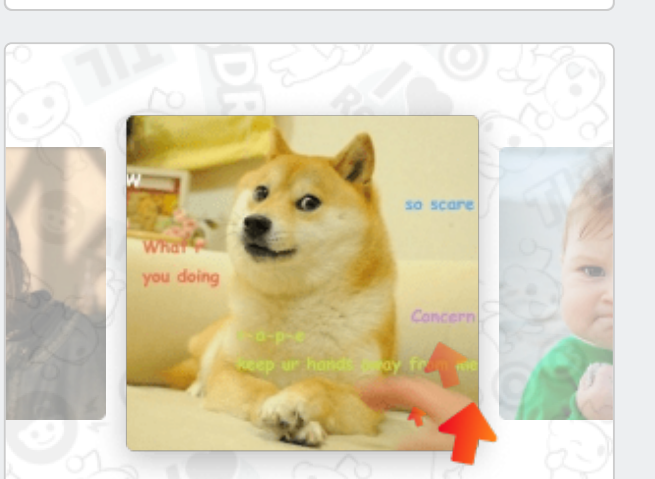

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